Aravindhan B

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Professional Summary

Software Developer aspiring to become an AI and ML Engineer. Skilled in full-stack development, problem-solving, and building intelligent, efficient systems. Passionate about applying machine learning and scalable architectures to deliver real-world, high-impact solutions through collaboration and innovation.

Education

Chettinad College Of Engineering And Technology - Karur   **Aug 2020 – July 2024**
BE - Computer Science Engineering | CGPA – 7.99

Professional Experiences

Software Engineer | Perspectiv Labs   **July 2024 - present**
- Developed full-stack web and mobile applications, including frontend, backend, API integration, database design, 3D models, and UI/UX designs, ensuring seamless and engaging user experiences. Built and deployed AI/ML solutions using MediaPipe for face detection and landmarks, and fine-tuned LLMs for domain-specific tasks, integrating intelligent features into applications.
- Accelerated development cycles using low-code/no-code platforms like Zoho Creator and Microsoft Power Apps, collaborating with cross-functional teams to deliver high-quality projects on time and resolving application issues to optimize performance.

Full Stack Developer Intern | Softapper Tech Solutions   **Feb 2024 – May 2024**
- Developed and maintained web pages, contributing to multiple projects from concept to deployment. Gained hands-on experience in both frontend and backend development, improving coding efficiency and problem solving skills.
- Collaborated with team to implement features, and optimize performance. Enhanced understanding of web development workflows, version control, and project management processes.

Projects

Hallucination Resistant LLM | Python, Gradio , FAISS, LoRA/PEFT , Sentence - Transformers
- Traditional LLMs (e.g., GPT-2, LLaMA-2) often hallucinate; they may invent fake research papers, provide incorrect medical facts, or make up citations. This unreliability poses a risk in high-stakes situations.
- It delivers factually consistent, domain-grounded responses.This approach reduces LLM hallucinations by combining external knowledge retrieval, answer cross-checking, and dataset fine-tuning.

Fine-Tuning Meta-Llama-3.1-8B for Mathematical Reasoning Tasks | Meta–Llama–3.1-8B , LoRA , Pytorch
- This project adapts a verifier model to determine whether mathematical answers are correct or incorrect, focusing on verification accuracy rather than stepwise solution generation.
- LoRA and 4-bit quantization lower resource consumption during training while maintaining strong performance on large-scale verification benchmarks and evaluations.

Codie AI – Code Assistant | React Js , convex , Node Js , Open AI
- Codie AI converts natural-language product descriptions into fully functional web projects using Next.js and the OpenAI API. It uses Conversational JS for context-aware interactions, enabling developers to prototype and deploy projects quickly with minimal manual setup.
- It also provides a real-time web IDE to edit, test, and optimize code instantly, accelerating the development workflow.

Skills

Deep Learning Frameworks: PyTorch, TensorFlow, Keras, Hugging Face Transformers
Programming Languages: Python, JavaScript, TypeScript, C++
ML Tooling & Libraries: Scikit-Learn, Pandas, NumPy, Matplotlib, spaCy
MLOps: Docker, GitHub Actions, GitLab CI/CD, FastAPI, Flask, REST APIs
Distributed Systems & Data Engineering: SQL, PostgreSQL, MongoDB, Redis
Cloud Platforms: NVIDIA GPU environments, AWS, GCP, VPC

Publications

Comprehensive Hallucination-Resistant Transformer Architecture with Advanced Neural Verification, Multi-Question Batch Processing, and Cloud Deployment

Designed and implemented a highly advanced hallucination-resistant Transformer model, integrating neural verification systems to ensure significantly improved reliability and interpretability of generated outputs. Conducted extensive experimental evaluations and benchmarking to validate model performance, demonstrating reduced hallucination rates,

superior accuracy, and improved trustworthiness in high-stakes AI applications.